Supplementary Materials

Relationships between Local Green Space and Human Mobility Patterns during COVID-19 for Maryland and California, USA

Seulkee Heo1,*, Chris C. Lim1, Michelle L. Bell1

Email: seulkee.heo@yale.edu (Seulkee Heo); chris.lim@yale.edu (Chris C. Lim); michelle.bell@yale.edu (Michelle L. Bell).

Contents

- Figure S1. Histograms of the statistics of the daily percent changes in mobility in Maryland.
- Figure S2. Histograms of the statistics of the daily percent changes in mobility in California.
- Figure S3. Trend in the distance traveled by users during the study period.
- Figure S4. Pair-wise scatter plots for EVI and covariates In Maryland.
- Figure S5. Pair-wise scatter plots for EVI and covariates In California.
- Table S1. Regression coefficients of covariates in the statistical models including parks (all types), EVI, retail and hospitals, population density, and percent impervious area.

¹School of the Environment, Yale University, 195 Prospect St, New Haven, CT 06511, USA

^{*} Author to whom correspondence should be addressed.

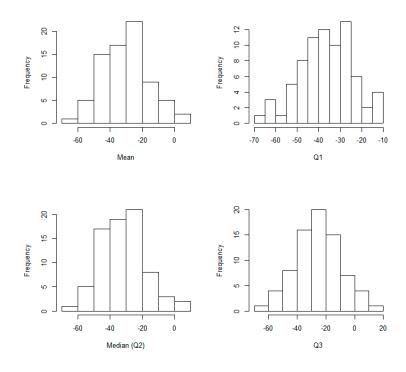


Figure S1. Histograms of the statistics of the daily percent changes in mobility in Maryland.

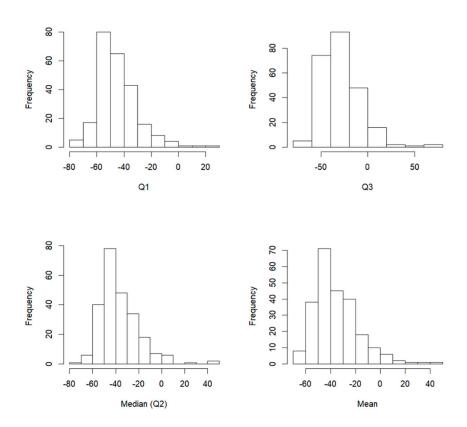


Figure S2. Histograms of the statistics of the daily percent changes in mobility in California.

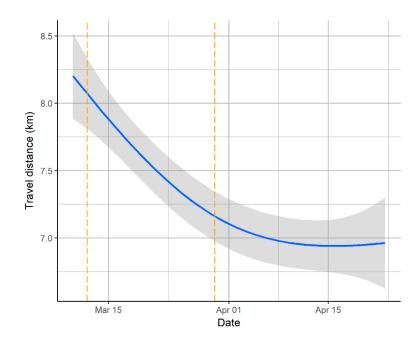


Figure S3. Trend in the distance traveled by users during the study period. *Blue line: LOESS smoothing line, grey area: 95% confidence interval of LOESS analysis, yellow dotted lines: Declaration of state of emergency and the following stay-at-home order.

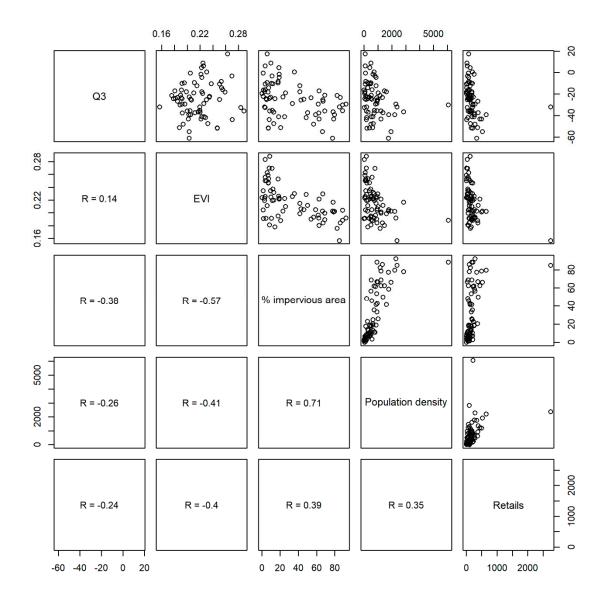


Figure S4. Pair-wise scatter plots for EVI and covariates In Maryland.

*The results are for MCDs where user's movement was observed (n=76). The unit of population density is 'persons/km²'. The variable 'retails' indicate the number of total food sto res, restaurants, hospitals, and pharmacy stores in each MCD.

.

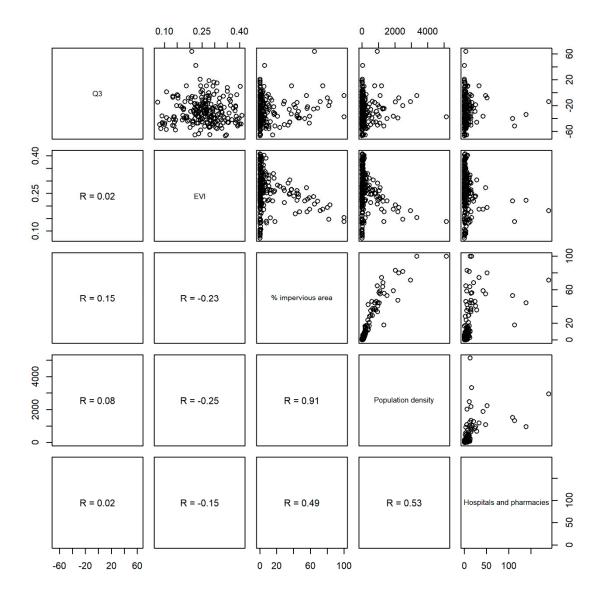


Figure S5. Pair-wise scatter plots for EVI and covariates In California.

*The results are for CCDs where user's movement was observed (n=241). The unit of population density is 'persons/km²'.

Table S1. Regression coefficients of covariates in the statistical models including parks (all types), EVI, retail and hospitals, population density, and percent impervious area.

| Variable | Model 1 | | | Model 2 | | | Model 3 | | |
|--------------------------------------|---------|---------------------|---------|---------|------------------|---------|---------|-----------------|---------|
| | Beta | 95% CI | p-value | Beta | 95% CI | p-value | Beta | 95% CI | p-value |
| Maryland | | | | | | | | | |
| EVI (%) | 13.367 | (-145.989, 172.722) | 0.870 | -0.725 | (-2.337, 0.888) | 0.382 | - | | |
| Number of food retail and hospitals* | -0.009 | (-0.021, 2.965) | 0.143 | -0.007 | (-0.019, 0.005) | 0.245 | -0.010 | (-0.021, 0.002) | 0.114 |
| Log population density | -2.551 | (-5.360, 2.585) | 0.078 | - | | | -2.621 | (-5.281, 0.039) | 0.058 |
| Percent impervious area (%) | - | | | -0.019 | (-0.369, -0.069) | 0.005 | - | | |
| California | | | | | | | | | |
| EVI (%) | 0.016 | (-0.356, 0.388) | 0.933 | 0.135 | (-0.232, 0.502) | 0.473 | - | | |
| Number of hospitals and pharmacy | -0.019 | (-0.173, 0.135) | 0.811 | -0.072 | (-0.225, 0.082) | 0.363 | -0.020 | (-0.170, 0.130) | 0.792 |
| Log population density | 0.733 | (-0.620, 2.087) | 0.290 | - | | | 0.744 | (-0.583, 2.071) | 0.273 |
| Percent impervious area (%) | - | | | 0.193 | (0.039, 0.347) | 0.015 | - | | |